

### **REMARKS/ARGUMENTS**

Upon entry of the instant amendment, claims 1-6 and 8-16 are pending. Claims 1, 6 and 12 have been amended to more particularly point out the Applicant's invention. It is respectfully submitted that upon entry of the instant amendment and consideration of the remarks below, the application is in condition for allowance.

#### **CLAIM REJECTIONS – 35 U.S.C. §102:**

Claim 12 has been rejected under 35 U.S.C. §102(e) as being anticipated by *Hau et al.* U.S. Patent No. 6,353,360. In order for there to be anticipation under 35 U.S.C. §102, each and every element of the claims must be found in a single reference. It is respectfully submitted that claim 12, as amended, contains elements clearly not disclosed or suggested by the *Hau et al.* reference. In particular, claim 12 now recites that the power amplifier is the Doherty power amplifier and that the predistortion circuit is also configured as a Doherty power amplifier. The Applicant agrees with paragraph 5 of the Detailed Action that the *Hau et al.* reference has nothing to do with a Doherty power amplifier. Accordingly, there can be no anticipation. Moreover, as will be discussed in more detail below, it is respectfully submitted that the *Hau et al.* reference does not suggest a predistortion circuit for a Doherty power amplifier wherein the predistortion circuit is also formed from a Doherty power amplifier. For all of the above reasons, the Examiner is respectfully requested to reconsider and withdraw the rejection of claim 12.

#### **CLAIM REJECTIONS – 35 U.S.C. §103:**

Claims 1-6, 8-11 and 13-16 have been rejected under 35 U.S.C. §103(a) as being unpatentable over *Hau et al.* U.S. Patent No. 6,353,360 in view of *Mitzlaff* U.S. Patent No. 5,757,229. It is respectfully submitted that neither the *Hau et al.* or the *Mitzlaff et al.* patents suggest a predistortion circuit for a Doherty power amplifier. In particular, claims 1-6, 8-11 and 13-16 recite a predistortion circuit formed as a Doherty power amplifier. Such Doherty power amplifiers include a carrier amplifier and a peak amplifier, among other things, operated at

different bias points. For example, the carrier amplifier is known to be operated as a class A amplifier while the peak amplifier is known to be operated as a class B/C amplifier. In accordance with an important aspect of the invention, the predistortion circuit, as recited in the claims, is configured to provide predistortion compensation for a Doherty power amplifier which also includes the carrier amplifier and a peak amplifier operated at different bias levels as discussed above.

Although the *Hau et al.* patent discloses a circuit for predistortion compensation of a power amplifier, it is clear that the *Hau et al.* patent cannot be used to provide precompensation for a Doherty power amplifier since the "feed forward" type predistortion circuit 303 can only be tuned to compensate for a single bias level. Indeed the predistortion circuit disclosed in the *Hau et al.* patent includes a predistortion circuit 303 connected to the input and output of an active device 302 which may be a bipolar or field effect transistor (column 7, lines 36 and 37). A schematic diagram of the predistortion circuit is shown in FIG. 4 of the *Hau et al.* patent. As shown, the predistortion circuit 303 includes a bipolar transistor 403. Having a single bipolar transistor in the predistortion circuit 303 means that the predistortion circuit can only compensate a single amplifier having a single bias point. In other words, even though the *Hau et al.* patent teaches the broad concept of providing a predistortion circuit to precompensate power amplifiers, it is clear that the teaching in the *Hau et al.* patent is limited to the single stage amplifiers or amplifiers with a single bias point. The predistortion circuit disclosed in the *Hau et al.* patent for a single amplifier with a single bias point is clearly not suggestive of a predistortion circuit for a Doherty power amplifier which includes a carrier and a peak amplifier operating at different bias levels.

Even though the *Mitzlaff* patent discloses a Doherty power amplifier circuit, it does not disclose or suggest a predistortion circuit for such a Doherty power amplifier. As set forth in

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§2143 of the Manual of Patent Examining Procedure, in order to establish a *prima facie* case of obviousness, three basic criteria must be met.

“First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all of the claim limitations.”

“The teaching or suggestion to make the claim combination and the reasonable expectation of success must both be found in the prior art, not in the Applicant’s disclosure.”

It is respectfully submitted that the Examiner has failed to set forth a *prima facie* case of obviousness for several reasons. First, there is no suggestion or motivation to combine the references in the manner suggested by the Examiner. The only motivation for such a combination is in the Applicant’s disclosure, which is not permissible. Secondly, there can be no reasonable expectation of success because the precompensation circuit disclosed in the *Hau et al.* patent clearly would not work to provide precompensation for a Doherty amplifier which has two amplifiers operating at different bias points. For these reasons and all of the above reasons, the Examiner is respectfully requested to reconsider and withdraw the rejection of claims 1-6, 8-11 and 13-16.

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**CONCLUSION**

An earnest attempt has been made to place the application in condition for allowance. An early allowance is thus earnestly solicited.

Respectfully submitted,

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